FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-8042

Burlington Northern Santa Fe Railroad (BNSR)

3940 N. Railroad Ave,

Pasco, WA 99301

SUMMARY

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST 8042. The Department of Ecology (the Department) is proposing to modify this permit, which will allow a zero discharge operation. This fact sheet explains the changes in BNSR's wastewater system upgrade and management, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

In 2003, BNSR constructed a 2-cell pond system. The pond was lined with double 60-mil HDPE liner and leak detection. Each pond size is approximately 80 feet by 50 feed and 4 feet deep. The pond system is designed to store/evaporate all process wastewaters year round. The discharge to City of Pasco's sewer system is only allowed when there is emergency situation.

Due to zero-discharge design, the wastewater monitoring is very limited during this permit cycle. The facility should focus their effort to routine O & M (operation and maintenance). Regular leak detection inspection is required in the O & M. And the Department will continue to conduct site inspections as needed.

TABLE OF CONTENTS

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INTRODUCTION

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the state include procedures for issuing permits (Chapter 173-216 WAC), and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Burlington Northern Santa Fe (BNSF) Railroad Company
Facility Address	3940 N. Railroad Ave., Pasco, WA 99301
Type of Facility	Locomotive Maintenance Facility
Type of Treatment:	None-Discharge Storage and Evaporation Pond
Discharge Location	Latitude: 46° 14' 00" N Longitude: 119° 09' 00" W.
Contact at Facility	Name: Doug Scott, Telephone #: (509) 546-3240
Responsible Official	Name: Jennifer Anderson Title : Manager, Environmental Operations Address: 2545 Occidental Avenue, Suite 1A, Seattle, WA 98134 Telephone : (206) 625-6034 Fax : (206) 625-6115

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

The Burlington Northern and Santa Fe Railway Company (BNSF) owns and operates a locomotive servicing and fueling station. The facility is located at 1001 East A Street in Pasco, Washington. A location map is attached as Figure 1. Facilities at the site include four sets of tracks and two fueling platforms. Support buildings include offices, break and locker rooms and repair facilities. The fueling station operates 24 hours, seven days a week. Approximately 90 employees work for the BNSF Pasco fueling station.

The facility is equipped with an industrial wastewater treatment system to collect and treat washdown waters from the fueling platforms, pump house, truck, railcar load/unload pads, and stormwater runoff. The first State Wastewater Discharge Permit was issued to the facility on December 30, 1996. The permit was renewed once on August 12, 1999.

INDUSTRIAL PROCESSES

The BNSF Pasco locomotive facility provides several services to their railroad, such as: line haul operations, switching terminal devices, safety inspection, maintenance and repair activities, and the locomotive fueling as their main activity. The fueling services conducted on the platform consist of the following:

Diesel fueling;
Engine lubrication oil filling;
Wheel box journal oil filling;
Radiator filling;
Sand box filling

Approximately 2 million gallons of diesel fuel will be disposed each month. According to the permit application, there were approximately 21,886,800 gallon diesel fuel dispensed, 25,200 gallons of lube oil dispensed and 1,000 gallons of journal oil dispensed in 2002. The fueling facility operates 24 hours a day and 7 days a week. There are about 90 employees working at this station. The employees at the facility perform mostly maintenance and repair related work.

TREATMENT PROCESSES

Due to industrial locomotive fueling related activities, the oil will occasionally spill on to the fueling platforms. Washing and cleaning the fueling platforms are expected to be a routine maintenance procedure. The rinsing or washing of the fueling platform is conducted by individual operators, and is done most likely on a daily and as needed bases. Other sources of wastewater include washdown of the pump house floor, truck, railcar load/unload pads rinsing and storm water runoff.

The existing wastewater treatment system consists of collection and treatment units. The rinse waters from the fueling platform are collected under the rail track through collection trenches and piping networks, then flow through a grit chamber, and oil/water separator. The grit chamber is used to remove suspended solids from the wastewater, and the oil/water separator is designed to remove hydrocarbons from the wastewater. The waste oil is then pumped to an

onsite 10,000 gallon used oil holding tank. When the tank is full, the used oil is hauled offsite for proper disposal.

Currently, the effluent from the oil/water separator flows by gravity to the city of Pasco's sewer system. The facility recently built a two cell wastewater holding/evaporation pond. The pond system has the capacity to store and evaporate all process wastewaters year-round; therefore discharge to the city's sewer system will be eliminated once the pond is in operation.

The two-cell pond is lined with a double 60-mil HDPE liner with leak detection between the liners. Each pond size is approximately 80 feet by 50 feet and 4 feet deep. The schematic for the pond system and collection system is attached as Figure 2. There is a separate ground water extraction system operating on the site; however, the extraction water is not discharged to this evaporation pond system. The facility once applied for an application to discharge this extraction water, but later abandoned the proposal.

PERMIT STATUS

The first State Wastewater Discharge Permit was issued to the facility on December 30, 1996. The permit was renewed once on August 12, 1999. The current permit will expire on June 30, 2004. An application for permit renewal was submitted to the Department on May 30, 2003 and accepted by the Department on June 6, 2003.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on October 15, 2003.

During the history of the previous permit, the Permittee has experienced non compliance with the current permit discharge conditions. The effluent TPH (total petroleum hydrocarbon) exceeded the discharge limitation throughout the permit period. There were several flow discharge exceedences as well.

In an effort to resolve the TPH violation issue and in responding to the City of Pasco's complaint about the high TPH in the effluent, the BNSF hired a consultant to explore alternatives to improve the wastewater treatment. After a lengthy study by their consultant, a recommendation was made to build a storage/evaporation pond system as the final wastewater treatment and disposal option, eliminating the discharge of wastewater to the city sewer.

WASTEWATER CHARACTERIZATION

Wastewater discharge was monitored on a regular basis. The concentration of pollutants in the discharge was reported in discharge monitoring reports (DMRs) since 1998. The parameters tested are discharge flow, TPH (total petroleum hydrocarbon) and pH. The data are plotted in Chart 1 and Chart 2. pH has been within the acceptable range throughout DMRs.

In Chart 1, there were 6 data points where the discharge flow had exceeded the discharge limit of 5,000 gallons per day. Based on this data history, the renewal permit will recommend the flow limit to be set at 9,990 gallons per day. In Chart 2, TPH exceeded the discharge limit of 50 mg/L the majority of the time. However, it appears that TPH started improving since January of 2002.

Chart 1 BNSF Discharge Flow 1998-2003

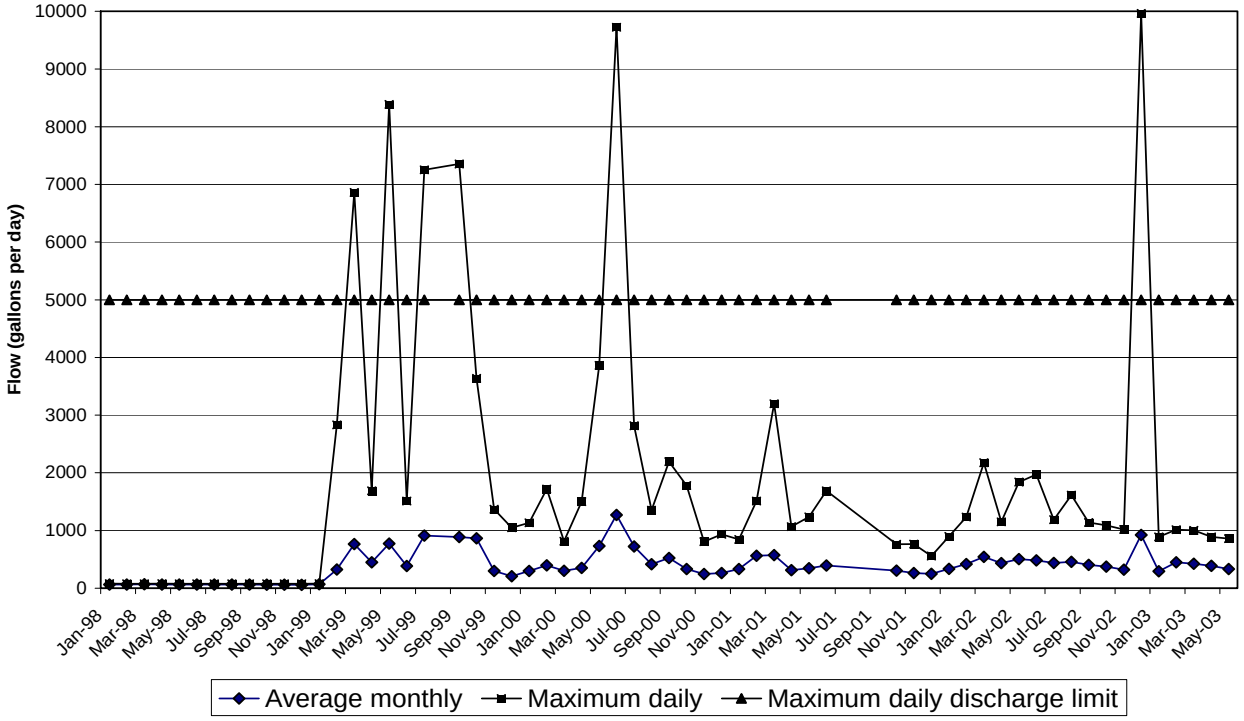
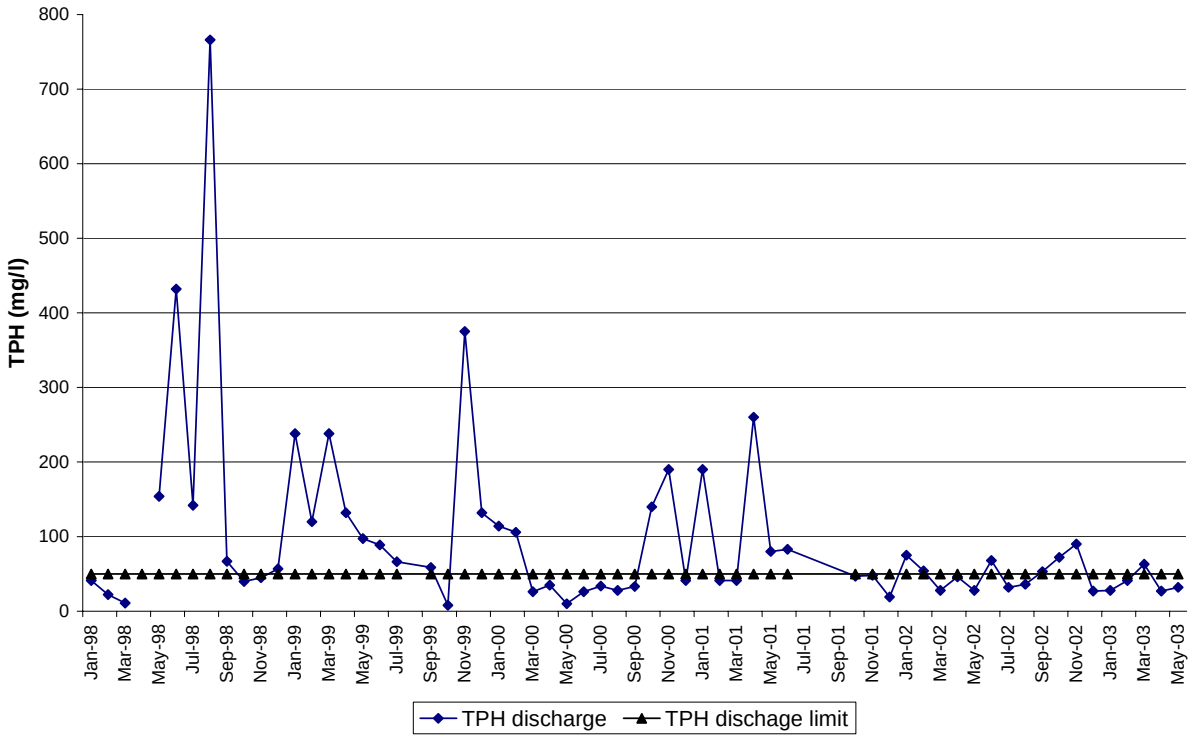


Chart 2 BNSF Discharge TPH 1998-2003



PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the State.

The facility has achieved AKART in their most recent effort by building a 2-cell, double lined with leak detection pond system to store and evaporate the wastewaters on site. By retaining the wastewater, the facility achieved zero-discharge. The pond system will provide enough capacity to store and treat all process wastewater year around. An emergency by pass to the city's sewer system is reserved only for high flow or emergency situations.

Based on the fact that there will be no anticipated discharge from the storage pond, and because of dry weather in Pasco, the pond water level is expected to remain low throughout a year. It is concluded that discharge limitations will not be necessary to impose on to this facility except flow. The flow limit is for operating purposes to set the design capacity, and based on the past 5 years of flow data, the influent flow to the pond will be limited to 9,990 gpd (gallons per day).

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

WASTEWATER MONITORING

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

There is no discharge limitation set for this facility due to zero-discharge operation. The main task for this facility should be focused on operation and maintenance, in order to meet the minimum designed criteria. Influent flow, pond water level and leak detection should be monitored for O & M, and not for compliance purpose. The detailed monitoring is as following:

Table 1. Wastewater Monitoring

Parameter	Sample Point	Sample frequency	Sample Type
Flow (gpd)	Pond drain manhole	daily	estimate
Leak inspection	Leak detection point	1/quarter	visual
Water level (feet)	The pond	1/quarter	measurement

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-216-110).

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.5. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

The submission of O & M Manual is due six months after the start operation of the pond system or six months after this permit is issued.

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The proposed permit requires the Permittee to develop and implement a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The Spill Plan can be included in the O & M Manual in a independent section.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies

conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that the permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20 pp.

Washington State Department of Ecology, 1996. Implementation Guidance for the Ground Water Quality Standards, Ecology Publication # 96-02.

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on June 19 and June 29, 2003 in the Tri-City Herald to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on February 10, 2004 in the Tri-City Herald to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Eastern Regional Office
4601 N. Monroe
Spokane, WA 99205

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (509) 329-3451, or by writing to the address listed above.

This permit was written by Ying Fu.

APPENDIX B--GLOSSARY

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of

industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C – RESPONSE TO COMMENTS

The following is our response to comments received on March 5, 2004 by Jennifer L. Anderson (Attached to the fact sheet), on the subject draft permit and fact sheet.

ISSUE No. 1

In Ms. Anderson's letter, it was requesting to remove the flow measurement or daily flow estimate from the monitoring program.

RESPONSE No. 1

This request can not be granted. In permit condition S1, the maximum daily flow limitation is set for 9,990 gallon per day. If the flow is not measured or reported based on calculation, then the flow limitation will not be valid or enforceable. The flow data is also important in providing basic operating information.

It is true that the flow meter was not required to install when the pond system was built based on zero-discharge design of the pond. However, the flow data was expected to be reported as in the past. The previous permit cycle flow data was calculated by subtracting domestic water usage from city's water meter reading. We expect the same method of flow estimate to be used in this permit cycle.

In order to reduce some labor cost, we can reduce daily flow recording to monthly. The average daily flow can be calculated using a total monthly flow divided by the number of working days in a month to come up with the daily flow. Once a month, this average daily flow should be recorded to the DMR report. The DMR reporting is also modified to quarterly.